A Study on Teachers' Perception About Using ChatGPT in Teaching and Learning at Higher Education

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Abstract

ChatGPT became a burning topics among technology-savvy people. From the day of launching this Artificial intelligence, many institution and educators were in a negative tune fearing the possible cheating by students. Over 11 months, many scholars' views have changed in a positive direction. The present study was Indian university teachers' perception of using ChatGPT and whether they will allow students to use it for learning purposes or not. Fifty-eight university teaching faculty members participated in the survey. Among the participants, 81% of them are aware of ChatGPT, and 50% of higher education teachers use ChatGPT. However, a large section of teaching faculty constituting 62% of the respondents expressed that they will not allow the use of ChatGPT by students for learning purposes. This study would benefit educators who are looking at the Indian context from the perspective of teaching faculty at higher education in India.

Keyword: ChatGPT, University, India, Higher-education

Introduction

In recent years, there has been a growing discourse surrounding artificial intelligence in the realm of technology. The tech community found itself abuzz with the launch of ChatGPT (Chat Generative Pre-trained Transformer), a substantial language model-based chatbot created by OpenAI and introduced on November 30, 2022. This Artificial intelligence (AI) system possesses the ability to compose responses by drawing information from the internet and can engage with users in natural conversations. It not only answers subsequent questions but also acknowledges its errors, questions incorrect assumptions, and rejects inappropriate requests, as noted by OpenAI in 2022. ChatGPT can produce text responses that closely resemble human language, offering answers to queries, engaging in conversations on diverse subjects, and even generating creative pieces of writing. The introduction of such highly capable artificial intelligence software has generated both enthusiasm and opposition from various institutions.

ChatGPT's capabilities in scoring well on a variety of assessments, including the Scholastic Assessment Test (SAT) and subjects like biology, art history, environmental science, macroeconomics, psychology, and US history, were noted. ChatGPT response could pass the medical licensing exam of the USA, and it could provide logic and informational context across the majority of answers (Gilson et al., 2023). A systematic review study in healthcare education revealed that ChatGPT could provide useful assistance in research, practice, and learning by addressing issues and concerns of using it (Sallam, 2023). Cascella et al., (2023) also found that it could boost research writing thought processing information using ChatGPT.

Other researchers signalled serious issues of invalid correct information by ChatGPT that might put patients in serious concern (Eggmann et al., 2023). However, Eggmann et al., (2023) agreed on the potential benefit of it in an administrative role.

Human-like response and its capability to give feedback is impressive but further study is needed to investigate its real effectiveness in using (Cascella et al., 2023). A study by De Angelis et al. (2023) highlights the term "*threat in public health*" pointing to generating huge text that includes misinformation and danger to the public related to healthcare, however, the author agrees on the potential benefit of ChatGPT in academic research writing. It is useful for medical students, doctors, nurses, healthcare fraternity to get updated information. At the same time, ethical concerns are infringement of copyright, and medico-legal complications (Dave et al., 2023).

In general academic discipline, ChatGPT has good potential to be used in language teaching, however, there still exists academic integrity and misuse and cheating (Barrot, 2023). A systematic review of 30 relevant articles by Imran & Almusharraf (2023) concluded the benefit of ChatGPT employed as writing assistance in academic disciplines, but still infringing plagiarism and academic integrity is the main concern among the issues. Therefore, understanding and awareness training among teachers and students is important (Imran & Almusharraf, 2023).

Özdemir-Çağatay & Özdemir-Çağatay (2023) surveyed with 110 teachers and professors of English language teaching. The findings were mixed feelings of advantages and disadvantages. Its findings highlighted about benefits of offering authentic text, and creativity. However, major concerns were unsupportive for students' creativity, academic integrity, and plagiarism. Another study of experience and feedback from language learning students was investigated and the finding showed that ChatGPT is a great help in language learning (Shaikh et al., 2023). A study by Akiba & Fraboni (2023) in a teacher training academy found that GPT is useful in finding the answers to students' queries. The finding also suggested that ChatGPT alone should not be a replacement for human teachers, but it could be employed as a complementary learning strategy.

In the early stage of the introduction of ChatGPT, there were more negative views in the media about the prospects of ChatGPT. Several schools and universities in the USA, Australia, the UK many other countries expressed concerns about the academic integrity of using ChatGPT.

However, more academicians and education psychologists started changing their views on ChatGPT's expressive positive toward it. Abramson (2023), a psychology instructor from the American Psychological Association, opposes the idea of banning ChatGPT and recognizes its strengths and benefits, advocating for its effective use in learning.

In the current study, the researcher tried to assess the perceptions of university teachers in India.

Research Objectives

1. To study the awareness level of Teacher's knowledge about ChatGPT.
2. To find out if teachers use ChatGPT as an assistant in teaching.
3. To understand teachers' perception of using ChatGPT by students for learning purposes.

Methodology

This study was a random sampling survey method and descriptive analysis among the university faculty members in higher education. There were N=58 participants in this study. The participants were teaching faculty members from the faculty of education, faculty of law, faculty of social and humanities, faculty of Agriculture, faculty of science and technology, faculty of nursing, and the faculty of pharmacy. The survey was conducted in the third week of October 2023. Three questions were asked to collect feedback with a Yes or No reply. The questions were to understand the awareness level of teacher and their perceptions about ChatGPT. The following are the questions:

Question

1. Have you heard about ChatGPT?

2. Do you sometimes use ChatGPT?

3. Do you think ChatGPT should be allowed to be used by students for learning purposes?

The responses are arranged in Table 1, below.

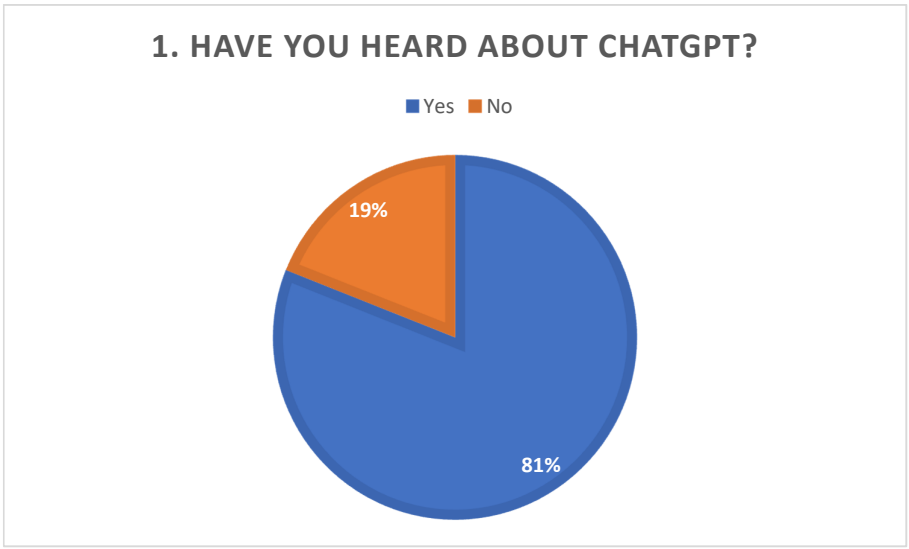
Table 1. Number of responses to the research question "Yes/No"

Question	Yes	No
1. Have you heard about ChatGPT?	47	11
2. Do you sometimes use ChatGPT?	29	29
3. Do you think ChatGPT should be allowed to be used by students for learning purposes?	22	36

Data Analysis

For question number "1. Have you heard about ChatGPT?", there were 58 respondents gave feedback as Yes=47 and No=11. This means 81% of the respondents were aware of ChatGPT and 19% were not aware of ChatGPT. This could be interpreted in the visual graphics in the pie-chart form in Figure 1.

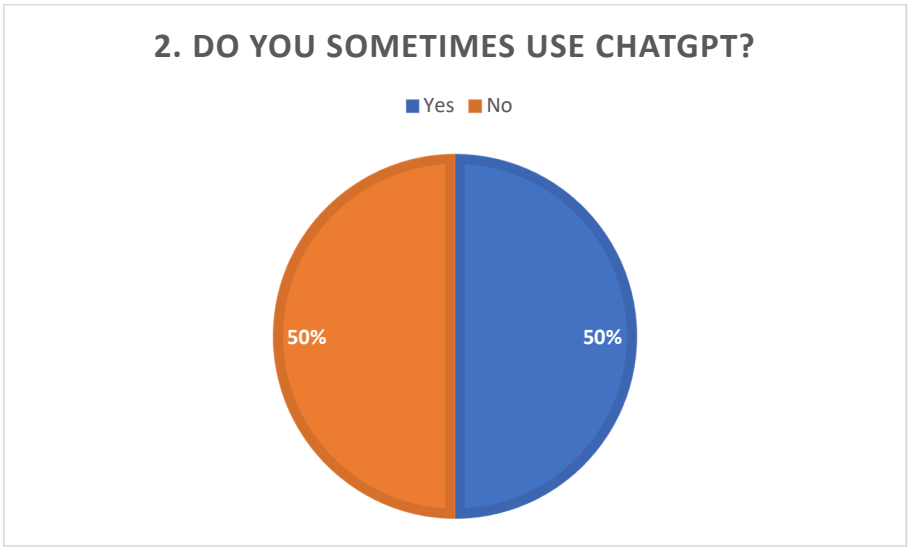
Figure 1. Faculty Member Who Were Aware of ChatGPT



Source: The pie chart was derived from 58 respondents [Yes=47 and No=11].

For question "2. Do you sometimes use ChatGPT?", out of 58 respondents, 29 participants have used ChatGPT for effective teachin□, which is 50% of the respondent faculty members use ChatGPT. On the other hand, 29 respondents have not used it. This accounts for 50% of the respondents who have not used ChatGPT. It is shown in Fi□ure 2 below.

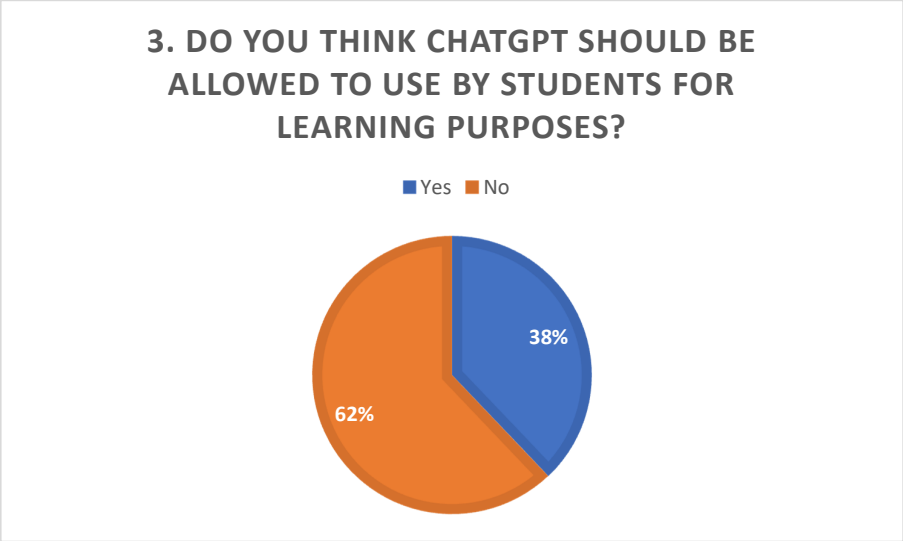
Figure 2. Faculty Members Who Sometimes Use ChatGPT for Productive Teaching



Source: The pie chart was derived from 58 respondents [Yes=29 and No=29].

For question "3. Do you think ChatGPT should be allowed to be used by students for learnin purposes?", 22 (38%) respondents said they would allow students to use ChatGPT for learnin purposes. Another 36 (62%) will not allow usin ChatGPT by students. This is shown in Fi ure 3 below.

Figure 3. Faculty Members' Opinions Whether students Will be Allowed or Not to use ChatGPT



Source: The pie chart was derived from 58 respondents [Yes=22 and No=36].

Findings

The majority of the faculty members, that is 81% of the respondents were aware of ChatGPT. Out of 58 participants, 50% of hi her education teachers use ChatGPT. A lar e section of teachin faculty which constitutes 62% of the respondents expressed that they will not allow the use of ChatGPT by students for learnin purposes. Despite a majority of them usin ChatGPT, the hi her education instructors are not willin to let students use ChatGPT. The current findin s were similar to the findin s of Özdemir-Çağatay & Özdemir-Çağatay

(2023) a mixed response. Despite the majority not being willing to let students use ChatGPT, 38% were willing to give freedom to students to use it.

Discussion

According to The Hindus News, it is worth noting that only 22% of schools in India had internet facilities in the academic year that ended with school closures due to COVID-19. Among government schools in India, less than 12% had internet in 2019-20, while less than 30% had functional computer facilities (Special Correspondent, 2021). This means the technology-driven teaching approach is not extensively used in India. Teacher-centred learning is still more popular in India than student-centred learning with deeply ingrained in the culture (Brinkmann, 2015). This is due to several factors, including:

Tradition and culture: The Indian education system has a long history of teacher-centred learning, and this tradition is still deeply ingrained in the culture. Teachers are seen as experts in their field, and students are expected to respect and obey them.

Large class sizes: Many Indian classrooms have very large class sizes, which can make it difficult for teachers to implement student-centred learning approaches.

Lack of resources: Many Indian schools lack the resources needed to support student-centred learning, such as computers, projectors, and other educational materials.

Teacher training: Many Indian teachers are not trained in student-centred learning approaches (Narayanan, 2020).

Many learners are familiar with and used to the teacher lecturing classroom learning is more prevalent in India. Because of the above constraints in the Indian context, ChatGPT might be projected as not recommended for students by higher education faculty members. This difference is reported from new findings from other developed countries that many educators

have started changing their attitudes and perceptions. Many education psychologists disagree with the notion of banning ChatGPT (Abramson, 2023). However, most of the higher education teachers in India are not willing to let students use ChatGPT for learning purposes.

Conclusion

The study concluded that the majority of higher education teachers, 81% of them are aware of ChatGPT. Fifty per cent of higher education teachers use ChatGPT to some extent. However, 62% of the faculty members expressed that they would not allow students to use ChatGPT for learning purposes. The perception of instructors of higher education in India also reflects due to culturally ingrained teachers' role as mainly teacher-centred teaching methods.

References

Abramson, A. (2023). How to use ChatGPT as a Learning Tool. https://www.apa.org. https://www.apa.org/monitor/2023/06/chatgpt-learning-tool

Akiba, D., & Fraboni, M. C. (2023). AI-Supported Academic Advising: Exploring ChatGPT's Current State and Future Potential toward Student Empowerment. Education Sciences, 13(9), Article 9. https://doi.org/10.3390/educsci13090885

Barrot, J. S. (2023). Using ChatGPT for second language writing: Pitfalls and potentials. Assessing Writing, 57, 100745. https://doi.org/10.1016/j.asw.2023.100745

Brinkmann, S. (2015). Learner-centred education reforms in India: The missing piece of teachers' beliefs. Policy Futures in Education, 13(3), 342-359. https://doi.org/10.1177/1478210315569038

Cascella, M., Montomoli, J., Bellini, V., & Bignami, E. (2023). Evaluating the Feasibility of ChatGPT in Healthcare: An Analysis of Multiple Clinical and Research Scenarios. Journal of Medical Systems, 47(1), 33. https://doi.org/10.1007/s10916-023-01925-4

Cascella, M., Montomoli, J., Bellini, V., & Bignami, E. (2023). Evaluating the Feasibility of ChatGPT in Healthcare: An Analysis of Multiple Clinical and Research Scenarios. Journal of Medical Systems, 47(1), 33. https://doi.org/10.1007/s10916-023-01925-4

Dave, T., Athaluri, S. A., & Singh, S. (2023). ChatGPT in medicine: An overview of its applications, advantages, limitations, future prospects, and ethical considerations. Frontiers in Artificial Intelligence, 6, 1169595. https://doi.org/10.3389/frai.2023.1169595

De Angelis, L., Baglivo, F., Arzilli, G., Privitera, G. P., Ferragina, P., Tozzi, A. E., & Rizzo, C. (2023). ChatGPT and the rise of large language models: The new AI-driven infodemic threat in public health. Frontiers in Public Health, 11, 1166120. https://doi.org/10.3389/fpubh.2023.1166120

Eggmann, F., Weiger, R., Zitzmann, N. U., & Blatz, M. B. (2023). Implications of large language models such as ChatGPT for dental medicine. Journal of Esthetic and Restorative Dentistry: Official Publication of the American Academy of Esthetic Dentistry ... [et Al.], 35(7), 1098–1102. https://doi.org/10.1111/jerd.13046

Gilson, A., Safranek, C.W., Huang, T., Socrates, V., Chi, L., Taylor, R. A., & Chartash, D. (2023). How Does ChatGPT Perform on the United States Medical Licensing Examination? The Implications of Large Language Models for Medical Education and Knowled□e Assessment. JMIR Med Educ. doi: 10.2196/45312. PMID: 36753318; PMCID: PMC9947764.

Imran, M., & Almusharraf, N. (2023). Analyzing the role of ChatGPT as a writing assistant at higher education level: A systematic review of the literature. Contemporary Educational Technology, 15(4), ep464. https://doi.org/10.30935/cedtech/13605

Narayanan, N. (2020). Improving Indian Teachers' Readiness to Adopt New Methodologies: Role of Learner-Centered In-Service Training. doi: 10.4018/IJTEPD.2020010107

Özdemir-Çağatay, S., & Özdemir-Çağatay, S. (2023). Examining the Use of ChatGPT in Language Teaching: Teachers' Experiences and Perceptions (examining-the-use-of-chatgpt-in-language-teaching) [Chapter]. Https://Services.Igi-Global.Com/Resolvedoi/Resolve.Aspx?Doi=10.4018/978-1-6684-9893-4.Ch001; IGI Global. https://www.igi-global.com/gateway/chapter/www.igi-global.com/gateway/chapter/330373

Sallam, M. (2023). ChatGPT Utility in Healthcare Education, Research, and Practice: Systematic Review on the Promising Perspectives and Valid Concerns. Healthcare (Basel, Switzerland), 11(6), 887. https://doi.org/10.3390/healthcare11060887

Shaikh, S., Yayilgan, S. Y., Klimova, B., & Pikhart, M. (2023). Assessing the Usability of ChatGPT for Formal English Language Learning. European Journal of Investigation in Health, Psychology and Education, 13(9), Article 9. https://doi.org/10.3390/ejihpe13090140

Special Correspondent. (2021, July 1). In Academic Year 2019-20, Only 22% Indian Schools had Internet. The Hindu. https://www.thehindu.com/news/national/in-academic-year-2019-20-only-22-indian-schools-had-internet/article35082011.ece